Jumping to Conclusions:
Bull-Leaping in Minoan Crete

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Abstract
Bull-leaping has become one of the most emblematic activities of Minoan Crete and has recently received renewed attention with the BBC/British Museum radio series, *A History of the World in 100 Objects*. One of the featured objects, a Minoan bronze group of a bull and acrobat, was brought to life in a television advertisement using a modern bull and leaper. This act of translation is at the heart of the dialogue this paper seeks to address: the interaction between current human attitudes toward nonhuman animals and their depictions, and those of the Bronze Age. It suggests that the animal practices of the past were shaped by material and social circumstances far removed from those of modernity. The mutual affordances of bulls and humans have resulted in similar interactions, or bull games, in different societies, but modern archaeologists have tended to downplay the relationship between bull and leaper in Bronze Age Crete by regarding bull-leaping in purely symbolic terms. An archaeological account informed by Human-Animal Studies can instead bring to the foreground both the familiarity and distinctiveness of past human-animal relationships.

Keywords
animal practice, Bronze Age, bull-leaping, cattle, Crete, Minoan

Introduction
A man who is naked from the waist up stands in a deserted landscape. The scene shifts from his bare back to the muzzle of a bull, black against black, steamy breath shooting from his nostrils. The man readies himself, his breath echoing that of the bull. A fire burns next to the man, and as the bull charges out of the darkness, the man drops a fiery brand. They run toward each other and, just before the moment of contact, the man somersaults to avoid the bull’s horns. “Man versus beast. Eye meets black beady eye. The real beast, however, the one to be conquered, lies not ahead but within”, a female voice tells us, as this is happening. As the bull runs back into the darkness and the
man stares after him, another bull appears. This one is inanimate, and a small human is suspended over his horns. The logo “every object tells a story” makes the connection between film and the object, one of the featured artifacts in the BBC/British Museum radio series, A History of the World in 100 Objects. The advertisement was played frequently on BBC television during 2010, and the object was featured in one episode of the series.¹ The advertisement is a characteristic 21st century response both to the object and the interaction between human and nonhuman animals. It offers an informative dialogue with modern archaeological approaches to bull-leaping, with which it shares a number of similarities, particularly the tendency to reduce human-animal relations to human symbolism.

The bronze group consists of a bull with legs outstretched in a pose known as a “flying gallop” (Figure 1). A much smaller human with an arched back, his hair acting as the point of connection, is poised over the bull’s horns. A pair of human feet is attached to the bull’s back, but it does not connect with the leaper: this is probably the result of a casting fault. The bull is missing his back legs and the leaper his arms. Made in about 1600 BC, this particular object allows for juxtaposition between an account of “bull-leaping” in Bronze Age Crete and its reception in modernity. It is on display in the British Museum, the focus of renewed visitor attention as one of the 100 objects chosen from the permanent collection. It is significant that the series was made for the radio (and internet) because the visual conventions of television would have resulted in a different approach (MacGregor, 2010, p. xiv): the advertisement shows the desire to animate objects through a form of reenactment rather than relying on description alone. It is possible to detect the influences of contemporary archaeological theory on the decision to refocus attention on the objects themselves. Approaches such as “object biography” have explored the histories of objects through all their phases of use, including museum display (Gosden & Marshall, 1999). More generally, the theoretical stance termed “materiality” has examined the influence of objects on people, even ascribing a form of agency or animacy to objects (Bennett, 2010; Miller, 2005). This runs counter to the tendency to regard objects as symbolic of human concerns and opens the way for a consideration of the relationship between objects, nonhuman animals, and humans.

In order to explore these themes further this paper seeks a dialogue between Human-Animal Studies (HAS) and archaeology. HAS offers a rich set of approaches, both empirical and theoretical, which could act as an important counterbalance to the frequent neglect or under-theorization of nonhuman animals in past societies. In return, archaeology could extend the time-depth
of HAS, offering a range of case studies to contextualize the human-animal relations of an industrialized world. Nevertheless, archaeology does not have direct access to past human-animal interactions, but rather it uses objects, whether bones or depictions, to reconstruct the past. Just as historians have grappled with the problems of reading the presence of animals in anthropocentric texts (Fudge, 2001), prehistorians have to examine critically the relationship between material culture and past human-animal relations. As a result, this paper does not seek to explore the specific interactions of past animals and humans, for which the evidence is lacking, but rather the mediation of human-animal relations by objects. A useful starting point is Burt’s (2001) discussion of technology and animal representation. It will be argued that both film and object are powerful representations of a momentary interaction between a bull and a man. It is the differences in technology and social context that are key to understanding the differences between the representations and their underlying animal practices. Animals on film are readily available and commonplace in modern society, whereas the bronze bull and leaper was the restricted product of an elite in Bronze Age Cretan society.
Reconstructing Minoan Bull-Leaping

Archaeologists’ representations of Bronze Age Cretan society, however, are partly the product of modern society. Sir Arthur Evans, the excavator of Knossos, drew on both Greek mythology and 19th century thought to leave a heavy interpretive legacy to the study of Minoan Crete (Hamilakis, 2002). This does not end with the naming of Bronze Age Cretans “the Minoans”, after the mythical King Minos, but it has resulted in an emphasis on the Mother Goddess, which owes as much to a set of 19th century preconceptions as to an imaginative reading of frequently ambiguous imagery (Cain, 2001; Gere, 2009). Evans started his monumental account of his discoveries at Knossos, The Palace of Minos, by noting the connections between the bull-leaping scenes he had found there and myths about the Minotaur (Evans, 1921b, pp. 1-2). He sought to reclaim these myths from the later Greeks, who had turned Knossos from “the peaceful abode of priest-kings” to “an ogre’s den”. In turn, many archaeologists would argue that Evans had invented the priest-kings; even the term “palace”, although in common use, is problematic since the function of large court-centered buildings such as Knossos is not fully known (Schoep, 2002). The same skepticism needs to be applied to Evans’s interpretation of bull-leaping as a religious performance on the grounds that palaces were religious centers. As German (2005) has argued instead, such performances staged by the palaces can be seen as a way of negotiating the social statuses of the human participants, including age and gender. This usefully places bull-leaping in a social context although the role of the bovine participants remains to be considered.

These origin myths for bull-leaping were first put forward by Evans not in The Palace of Minos but in an article about the bronze bull and leaper now in the British Museum. It had recently been acquired by Captain Spencer-Churchill and was known only to have come from Rethymnon, a city in west-central Crete. Bringing in evidence from Knossos, in the form of depictions of bull-leaping on sealstones, frescos, and other media, Evans (1921a, p. 255) suggested: “What we witness, in fact, are the feats of the Circus, performed in honor of the great Minoan Goddess”. Evans also stated his belief that both boys and girls took part in bull-leaping, an assumption based on the fact that leapers in frescos have two different skin colors. The problem of otherwise differentiating the figures by anatomy or costume (including a cod-piece) led Evans to envisage a ritual transvestism, reinforcing, as he saw it, the religious connotations of bull-leaping (Evans, 1935, pp. 21-22). This too has become one of the myths of bull-leaping, but it is more likely that the color differences refer to another distinction, such as different age or status (Damiani Indelicato, 1988; Marinatos, 1989, 1994).
The practices of bull-leaping have been discussed extensively, drawing on the large number of depictions from Minoan Crete (Evans, 1930). More recently, Younger (1976, 1983, 1995) has updated the corpus of known depictions, piecing together a sequence of activities, including bull capture, grappling/wrestling, leaping, and sacrifice. Although there is no evidence that sacrifice followed bull-leaping, as Younger (1995, p. 518) concedes, the frequently claimed association between the two can be seen as a symptom of the interpretive tendency to see bull-leaping in ritual or religious terms. The most recent additions to the corpus were found in Egypt at Tell el-Dab’a on the Nile Delta. These frescos, clearly Cretan in design and execution, show a variety of different aspects of bull-leaping. Evans’s influence on interpretation is, however, still apparent in the exhaustive publication of the frescos: “We may conclude that the bull games are dedicated and constitute an offering to the Minoan solar goddess” (Bietak, Marinatos, & Palivou, 2007, p. 148). Other authors have sought to tie bull-leaping with the worship of bulls, but there is no agreement on details of interpretation (Castleden, 1990; Hawkes, 1968). These religious narratives have tended to take precedence over the relationships actually documented in the depictions of bull-leaping.

This problem is particularly acute for Bronze Age Crete since there are no written texts to inform archaeologists about the content of religious beliefs. The Knossos Linear B tablets only give the names of deities as part of the documentation of essentially economic transactions. They also give the names of a number of cattle, such as “Woinikos” (meaning “ruddy”); these were presumably plough oxen under the control of the palace (Killen, 1993). The tablets were created several hundred years later than the bronze bull and leaper, but they reveal the importance of individual cattle to the economy of the palace, most probably being loaned out for traction. Although these were oxen rather than bulls, it demonstrates the variety of human-cattle relationships that revolved around the palace at Knossos. What is significant here is that only some of these relationships were depicted.

Even when archaeologists consider the practice of bull-leaping in less explicitly religious terms, the bulls can be seen as passive in the interaction. Morgan (1998, p. 18), for instance, argues: “The participants of the bull-sports are always depicted as young and athletic and the social function of the sport was undoubtedly as an expression of youthful vigor and daring in acts involving physical challenge and dominance over animal power.” Marinatos (1989, p. 32) also sees the bull as an adversary whose conquest confirmed “man’s mastery over nature”. The same symbolic logic appears in the advertisement: the human-animal relations of the past are reduced to the same modern myth of human dominion over animals.
Recently, there has been a move toward considering the way in which bull-leaping arose from everyday cattle-human relationships (McInerney, 2010). These include the more immediate techniques of capture and restraint, although this is still often seen as essentially adversarial (Loughlin, 2004). Zeimbekis’s (2006, p. 27) longer-term view examines the “archive of practices, ideas and values surrounding cattle,” which had arisen on Crete over the millennia and which were formalized in the practice of bull-leaping in the middle of the Bronze Age. She stresses the importance of cattle to Cretan social life before social stratification to explain why the practice was subsequently adopted by elite members of society. Although bull-leaping has become synonymous with Minoan Crete, most of the depictions cluster in a short period, and so it is necessary to consider the practice alongside developments in human society (Soar, 2009). This, however, is not to neglect the role of the bulls, whose size and behavior formed a crucial part of bull-leaping. All the indigenous large herbivores of Crete had become extinct by the time of Neolithic colonization by humans and domesticated animals, and so bulls were the largest and most dangerous animals on the island in the Bronze Age. The mountainous plains of Crete were particularly suitable grazing areas, and until recently cattle were a common sight on Crete (Rackham & Moody, 1996, pp. 74, 118).

Animal Practices and Their Representation

It is useful to extend this discussion in terms of Elder, Wolch, and Emel’s (1998) “animal practices,” which arise in a particular place and social context. This is an important point, since bull-leaping is often discussed alongside other ostensibly similar activities. Indeed, Evans (1921a) suggested that bull-leaping was linked to a later Greek practice of jumping on bulls from horseback and associated this with the modern rodeo. The associations have been made both ways: Marvin (1988, p. 52) reports attempts to link the Spanish corrida back to Bronze Age Crete. This is not to deny the usefulness of parallels, if the differences are taken into account. This point is made particularly starkly by the advertisement, which involves a modern-day Spanish bull-leaper, a recortador. Whereas recortadores normally perform in the arena, the bare landscape of the advertisement divorces the practice from the usual social context of such a performance. In many ways the nonspecific location of the advertisement marks the antithesis of an animal practice. In contrast, excellent anthropological accounts of the Spanish corrida (Marvin, 1988) and the American rodeo (Lawrence, 1982) situate modern-day performances involving humans and cattle in a rich social context; once the differences are understood, it becomes
possible to consider similarities with bull-leaping. Marvin’s (1988, p. 131) discussion, for instance, of the bull being brought from the wild countryside into controlled urban space provides a useful analogy. As he suggests, only in the temporal and spatial context of the corrida is the interaction between bull and man significant. The difficulty in extending the idea of animal practices to Bronze Age Crete is that bull-leaping, and indeed Minoan society, is known principally from archaeological remains. The British Museum bronze figure is the only known complete three-dimensional depiction from the Neopalatial period (1700 BC-1450 BC). This compounds the problem that historical human-animal relations are only known through representations (Fudge, 2002, p. 6), since Minoan human-animal relations are only known through material remains, which are themselves represented by archaeologists.

Evans provided a number of representations in his publication of the bronze group, since, in addition to his religious interpretation, he extrapolated the position of the bull and leaper into a diagram showing the mechanics of the leap (Evans, 1921a, p. 253). He suggested that the leaper would grab the horns of the bull, who would then toss the leaper onto his back. This has been the cause of skepticism since bulls cannot be expected to behave in this way, although this is often based on analogies with modern rodeo bulls or corrida bulls (Evans, 1930, p. 212): Younger instead sees the schema suggested by Evans as an aesthetic device and suggests that depictions of diving leapers are more accurate (Younger, 1976, p. 135). Nevertheless, Evans’s diagram reveals how the bronze group suggests, to use Haraway’s (2008) term, an act of “becoming with”. The way in which the arched back of bull and leaper echo one another can be seen as aesthetic, but it also reveals the unity of bull and leaper at the moment of the leap. Not all authors have seen bull-leaping depictions as essentially adversarial. Hawkes (1968, p. 122) notes, “a perfectly successful union of human skill and spring with taurine strength.” Groenewegen-Frankfort (1951) saw depictions of bull-leaping and other Minoan activities as “serious play” in which graceful movement was central, negating any need to sacrifice the bull. She made the point that bulls are depicted in a variety of postures in Minoan art, making it likely that bull-leaping is depicted accurately.

Although many people would reject the analogy with Spanish bullfighting in view of the violence inflicted on the bull over the course of the performance, some matadors describe a partnership between themselves and the bull prior to the act of killing (Marvin, 1988, p. 31). Even the rodeo sport of bull-riding, which is explicitly adversarial, is scored by a combination of the bull’s bucking and the rider’s poise (Lawrence, 1984, p. 31). The point is that bulls and humans have various affordances; that is, properties or capacities
which are not predetermined but realized in interaction (Gibson, 1979): in these modern interactions the affordances of the bulls are manipulated by various means to ensure a particular outcome. Bulls' horns afford them the means to attack rivals and defend themselves: these modern performances involving bulls ensure that the human participants avoid the horns, whether by leaping over them, attempting to remain on the back of the bull, or controlling the bull's attempts to use his horns, the essence of the matador's “partnership.” In contrast Minoan bull-leapers are shown holding the bull's horns, implying a different type of interaction.

The analogy with the corrida is a reminder that bull-leaping should not be romanticized: animal practices are not necessarily symmetrical. The Dab’a frescos also include the painful act of a bull's neck being twisted by one human while being apparently taunted by another human. The short horns of the bronze bull could be a sign of polling, as in other Minoan sculptures of bulls (Rehak, 1995, p. 437). This is another means to alter the balance of the interaction, particularly because it affects bulls’ spatial awareness (Marvin, 1988, p. 5). At the same time, it is necessary to be aware of importing modern day assumptions, such as the adversarial nature of human-animal relations, rather than examining the evidence. The Spanish toros bravos, as the name suggests, are bred for particular “wild” behavioral traits (Marvin, 1988, p. 102), and rodeo bulls are encouraged to buck by tying a cord around their belly: this does not necessarily make them a useful analogy for Bronze Age bulls. However, the Dab’a frescos, among other depictions, also show leaps going dangerously wrong for the human. This can be seen as showing the bull's agency in the practice.

The depiction of both harmonious and abortive leaps raises the issue of the role of depiction in these animal practices. This is a complex issue, since, like animal practices, these depictions need to be put in their cultural contexts in order to understand how they relate to bull-leaping. Once more the advertisement raises important questions: Although there is a seamless transition from the film of the bull and human to the bronze object, are these in any way comparable? Film has been seen as a symptom of the marginalization of animals in the modern world, drawing on Berger's famous essay (Berger, 1980; Lippit, 2000). Baker's (2001) term “disnification” broadens this to a variety of modern visual cultures that have become a substitute for “real” animals. From this point of view, the advertisement trivializes what is depicted with its visual conventions, edgy soundtrack, and voiceover. Burt (2002, 2005) is more critical of the idea that animals have disappeared in modernity, suggesting that, far from being historical, Berger's essay mythologizes the past and turns animals into metaphors and symbols. Instead, animals in film cannot be treated
in such reductionist terms because their appearance acts as a type of rupture (Burt, 2002, pp. 10-11). In these terms, the advertisement reveals the bodily difference, speed and power of the bull in relation to an athletic man, who incidentally bears the scar across his chest of his occupation. The thrilling encounter works against the other messages conveyed; in this respect it captures something of the relationship at the heart of bull-leaping. Ironically, given his historical reductionism, Berger’s thoughts were stimulated by a history of animals in art by Klingender (1971). Berger’s (1971) book review suggests that nearly every society before modernity depicted animals in a similarly realistic way, leading him to stress the difference between now and then. Yet Klingender’s book reveals the significance and diversity of animal imagery in a wide range of human societies, long before the advent of Disney films.

Materializing Bull-Leaping

Taking on Burt’s (2002, p. 44) argument that “the visual is historically constitutive of human-animal relations”, it is worth returning to the British Museum bronze. Its findspot is unknown, although it is possible that it came from near the Preveli Gorge in south-central Crete (Pendlebury, 1939, p. 217). The realism of the depiction, particularly the sense of movement, is striking, but it is possible to reconstruct something of its original social context and possible place of deposition. The majority of bronze animal and human figurines were found at open-air sanctuaries in Crete (Pilali-Papasteriou, 1985; Sapouna-Sakellarakis, 1995). The deposition of much more labor-intensive objects, including many made of bronze at this time, and the decrease in the number of sanctuaries, has been linked to the increasing control of these ritual sites by the palaces (Peatfield, 1987). No similar bronze figures were found at Knossos, but a human in a similar leaping pose made of ivory, another expensive imported material, was found in the palace (Younger, 1976, p. 130). After the decline of the palaces, bronze bulls were frequently deposited in cave sanctuaries, although these are distinguished by a lesser degree of naturalism.

The naturalism, or realism, of the bull and leaper is significant, and it is most closely associated with depictions of the Neopalatial period (Shapland, 2010). Certainly it captures the moment when bull and human are in perfect harmony. Before the advent of film or photography, capturing a moment was not the commonplace it is in the modern world, but it required finely crafted objects. As a result, the dissemination of such depictions could be more easily controlled. As Younger (1995, p. 523) has pointed out, the site of Knossos, in contrast to other contemporary sites, was “basically cluttered with bulls”.
Visitors to the palace from the Neopalatial period until the palace’s destruction would have seen frescos of bulls on the walls, including life-size bulls by at least one of the entrances. Depictions of bull-leaping known from gold rings, used for sealing clay objects, were connected more closely to the individual wearer(s) for the self-identification of an elite (German, 2005). At the same time, it is likely that the performance itself was available to a much larger number of spectators, given that there are surviving frescos from Knossos showing large gatherings of people, although not clearly associated with bull-leaping. The animal practice of bull-leaping did not just involve a short-term encounter between humans and bulls, but it was preserved, controlled and disseminated in the form of objects made by specialized craftspeople. A further contrast can be drawn between large-scale depictions, and perhaps the event itself, which a large number of people would have been potentially able to see, and smaller-scale objects. The latter, by virtue of their small size, can be associated with a more restricted group of people at any one time, indicating more exclusive social practices (Logue, 2004).

The place of bull-leaping depictions in Bronze Age Crete was as a result very different from that of the disnified images of the modern world. The majority of the population would have had more contact with domestic animals than animal imagery. Rather than trivializing human-animal interactions, these depictions enhanced their significance, but they only feature certain types of human-cattle interaction. It is immediately apparent that, whereas there are hundreds of depictions of bull-leaping extant from Bronze Age Crete, there are almost no depictions of more everyday interactions. A single seal impression from Knossos shows a man milking a cow, and no depictions of plowing are known from Bronze Age Crete. Archaeology does provide direct evidence of plowing in Bronze Age Crete, in the form of pathologies on cattle bones (Isaakidou, 2006). On one level this shows the bias of depictions toward elite activities but, on another, this reveals how depictions were a socially significant part of Minoan human-animal relations. As Burt (2001, p. 222) concludes, “The changing configurations of visibility and invisibility—indeed, one cannot consider one without the other—are what determine both the nature and power of animal representation.” It is for this reason that it is possible to discuss bull-leaping at all, since such objects have been preserved archaeologically and continue to make absent animals visible.

Depictions also make visible the culturally-specific affordances of bulls in Neopalatial Crete, particularly their role in the animal practice of bull-leaping. Although the advertisement also shows a somersault over a bull, it does not however reveal the same affordances, since contact is part of the interaction between bull and leaper in the bronze group and other Bronze Age depictions.
The advertisement instead shows the bull as an animal to be avoided. The Knossos Taureador frescos, the most famous depictions of bull-leaping, also potentially reveal something about the affordances of the depicted bulls through their markings (Evans, 1930, p. 213). Whereas wild bulls (aurochs) are known to have been predominantly black, the piebald markings seen in the frescos are almost uniquely found in domesticated animals of various species. As Zeuner (1963, p. 229) also suggests, this has behavioral implications, particularly that Cretan bulls were not necessarily as ferocious as is often assumed. But in addition to seeing these Neopalatial images as conveying information about the affordances of bulls, it can also be suggested that their naturalistic depiction and culturally significant details helped to establish a connection with a specific animal practice.

Conclusion

It can be suggested that the bronze bull and leaper captures, or materializes, a moment of “becoming with” which was particular to Bronze Age Crete. In many ways Groenwegen-Frankfort’s term “play” is an appropriate term, since it was an interaction between bulls and humans freed from economic concerns. However, it was not free from social concerns since it became part of elite self-definition, as seen in the variety of fine-crafted depictions of bull-leaping. It can be suggested that the most obvious place for the bull and leaper to have originated is Knossos. However, the worn tail of the bull and stumped arms of the leaper, which Evans (1921a, p. 252) saw as an artistic gesture, perhaps tell another story, of an object which was handled over a long period of time before its final deposition, perhaps in an open-air sanctuary near the Preveli Gorge. Its naturalism was a lasting manifestation of a socially significant animal practice.

At the center of the advertisement is the juxtaposition of a fleeting encounter between man and bull and the durable object which inspired it. In one way this act of translation captures the naturalism of the figurine: it is difficult to make the animals of the past come alive and for a modern audience the advertisement reanimates a static object. This paper has suggested, however, that the symbolic overtones and bare landscape of the advertisement neglect another aspect of the figurine: the depiction of a socially significant animal practice. In this it has much in common with the prevailing symbolic approach to bull-leaping in archaeological accounts. Instead it has been argued that bull-leaping in Bronze Age Crete was a specific type of interaction between humans and cattle whose performance and subsequent dissemination in material culture
was closely associated with a palatial elite. The animal practices of the present, like modern visual culture, can inform the study of past objects, but it is important not to lose sight of the distinct set of human-animal relations and affordances in which objects such as the figurine were located in the Bronze Age. Before the age of mechanical reproduction, the bronze bull and leaper extended, rather than simply reflected, the interactions between bulls and humans in Minoan Crete.

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Notes

1. The advertisement was made by Fallon Worldwide and can be viewed at http://www.fallon.co.uk/work or http://www.youtube.com/watch?v=RhgYG0rRdlY. It won a bronze award at the 2010 Cannes Lions International Advertising Festival. *A History of the World in 100 Objects* was a hundred-part radio series on BBC radio accompanied by web resources and a book (MacGregor, 2010). The project told a history of the world through objects in the British Museum with the aims of showing the importance of a global historical perspective and the power of objects to explore the human past. For further information about the BBC series, including the episode with the bull and leaper, see http://www.bbc.co.uk/ahistoryoftheworld/.

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